

## SEQUENZPROTOKOLL

<110> Medizinische Klinik und Poliklinik A des Universitätsklinikums Münster  
<120> Fusionspolypeptide für die antivaskuläre Tumortherapie  
<130> P 51875  
<160> 31  
<170> PatentIn version 3.1

<210> 1  
<211> 263  
<212> PRT  
<213> Homo sapiens

<220>  
<221> Aminosäuresequenz von humanem TF

<400> 1  
Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser  
1 5 10 15

Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln  
20 25 30

Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys  
35 40 45

Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val  
50 55 60

Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala  
65 70 75 80

Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn  
85 90 95

Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr  
100 105 110

Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu  
115 120 125

Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg  
130 135 140

Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser  
145 150 155 160

Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu  
165 170 175

Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val  
180 185 190

Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu

195	200	205
Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Glu Ile Phe Tyr Ile Ile		
210	215	220
Gly Ala Val Val Phe Val Val Ile Ile Leu Val Ile Ile Leu Ala Ile		
225	230	235
Ser Leu His Lys Cys Arg Lys Ala Gly Val Gly Gln Ser Trp Lys Glu		
245	250	255
Asn Ser Pro Leu Asn Val Ser		
260		

<210> 2  
<211> 2  
<212> PRT  
<213> Homo sapiens

<220>  
<221> Aminosäuresequenz von tTF<sub>1-218</sub>

<400> 2			
Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser			
1	5	10	15
Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln			
20	25	30	
Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys			
35	40	45	
Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val			
50	55	60	
Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala			
65	70	75	80
Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn			
85	90	95	
Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr			
100	105	110	
Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu			
115	120	125	
Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg			
130	135	140	
Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser			
145	150	155	160
Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu			
165	170	175	
Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val			
180	185	190	
Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu			

195

200

205

Cys Met Gly Gln Glu Lys Gly Glu Phe Arg  
210 215

<210> 3  
<211> 224  
<212> PRT  
<213> Artificial

<220>  
<221> Aminosäuresequenz von tTF-GRGDSP

<400> 3  
Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser  
1 5 10 15

Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln  
20 25 30

Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys  
35 40 45

Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val  
50 55 60

Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala  
65 70 75 80

Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn  
85 90 95

Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr  
100 105 110

Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu  
115 120 125

Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg  
130 135 140

Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser  
145 150 155 160

Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu  
165 170 175

Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val  
180 185 190

Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu  
195 200 205

Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Arg Gly Asp Ser Asp  
210 215 220

<210> 4  
<211> 225  
<212> PRT  
<213> Artificial

<220>  
<221> Aminosäuresequenz von tTF-GNGRAHA

<400> 4  
Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser  
1 5 10 15  
  
Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln  
20 25 30  
  
Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys  
35 40 45  
  
Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val  
50 55 60  
  
Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala  
65 70 75 80  
  
Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn  
85 90 95  
  
Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr  
100 105 110  
  
Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu  
115 120 125  
  
Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg  
130 135 140  
  
Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser  
145 150 155 160  
  
Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu  
165 170 175  
  
Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val  
180 185 190  
  
Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu  
195 200 205  
  
Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Asn Gly Arg Ala His  
210 215 220  
  
Ala  
225

<210> 5  
<211> 228  
<212> PRT  
<213> Artificial

<220>  
<221> Aminosäuresequenz von tTF-GALNGRSHAG

<400> 5  
Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser  
1 5 10 15  
  
Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln  
20 25 30  
  
Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys  
35 40 45  
  
Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val  
50 55 60  
  
Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala  
65 70 75 80  
  
Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn  
85 90 95  
  
Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr  
100 105 110  
  
Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu  
115 120 125  
  
Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg  
130 135 140  
  
Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser  
145 150 155 160  
  
Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu  
165 170 175  
  
Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val  
180 185 190  
  
Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu  
195 200 205  
  
Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Ala Leu Asn Gly Arg  
210 215 220  
  
Ser His Ala Gly  
225

<210> 6  
<211> 225  
<212> PRT  
<213> Artificial

<220>  
<221> Aminosäuresequenz von tTF-GCNGRCG

<400> 6  
Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser  
1 5 10 15  
  
Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln  
20 25 30  
  
Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys  
35 40 45  
  
Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val  
50 55 60  
  
Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala  
65 70 75 80  
  
Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn  
85 90 95  
  
Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr  
100 105 110  
  
Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu  
115 120 125  
  
Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg  
130 135 140  
  
Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser  
145 150 155 160  
  
Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu  
165 170 175  
  
Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val  
180 185 190  
  
Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu  
195 200 205  
  
Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Cys Asn Gly Arg Cys  
210 215 220  
  
Gly  
225

<210> 7  
<211> 232  
<212> PRT  
<213> Artificial

&lt;220&gt;

&lt;221&gt; Aminosäuresequenz von tTF-GCNGRCVSGCAGRC

<400> 7  
Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser  
1 5 10 15  
  
Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln  
20 25 30  
  
Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys  
35 40 45  
  
Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val  
50 55 60  
  
Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala  
65 70 75 80  
  
Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn  
85 90 95  
  
Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr  
100 105 110  
  
Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu  
115 120 125  
  
Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg  
130 135 140  
  
Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser  
145 150 155 160  
  
Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu  
165 170 175  
  
Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val  
180 185 190  
  
Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu  
195 200 205  
  
Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Cys Asn Gly Arg Cys  
210 215 220  
  
Val Ser Gly Cys Ala Gly Arg Cys  
225 230

<210> 8  
<211> 228  
<212> PRT  
<213> Artificial

<220>  
<221> Aminosäuresequenz von tTF-GCVLNGRMEC

<400> 8  
Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser  
1 5 10 15  
Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln  
20 25 30  
Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys  
35 40 45  
Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val  
50 55 60  
Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala  
65 70 75 80  
Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn  
85 90 95  
Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr  
100 105 110  
Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu  
115 120 125  
Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg  
130 135 140  
Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser  
145 150 155 160  
Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu  
165 170 175  
Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val  
180 185 190  
Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu  
195 200 205  
Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Cys Val Leu Asn Gly  
210 215 220  
Arg Met Glu Cys  
225

<210> 9  
<211> 654  
<212> DNA  
<213> Artificial

<220>  
<221> Nukleotidsequenz von tTF<sub>1-218</sub>

<400> 9	
tcaggcacta caaatactgt ggcagcatat aatttaactt ggaaatcaac taatttcaag	60
acaatttgg agtgggaacc caaaccgc tc aatcaagtct acactgttca aataagcact	120
aagtcaaggag attggaaaag caaatgctt tacacaacag acacagagtg tgacctcacc	180
gacgagattt tgaaggatgt gaagcagacg tacttggcac gggcttctc ctacccggca	240
ggaaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc	300
acaccttacc tggagacaaa cctcggacag ccaacaattc agagtttga acaggtggga	360
acaaaagtga atgtgaccgt agaagatgaa cggaacttag tcagaaggaa caacacttcc	420
ctaaggctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct	480
tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat	540
aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctccgaac agttaaccgg	600
aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt caga	654

<210> 10  
<211> 672  
<212> DNA  
<213> Artificial

<220>  
<221> Nukleotidsequenz von tTF-GRGDSP

<400> 10	
tcaggcacta caaatactgt ggcagcatat aatttaactt ggaaatcaac taatttcaag	60
acaatttgg agtgggaacc caaaccgc tc aatcaagtct acactgttca aataagcact	120
aagtcaaggag attggaaaag caaatgctt tacacaacag acacagagtg tgacctcacc	180
gacgagattt tgaaggatgt gaagcagacg tacttggcac gggcttctc ctacccggca	240
ggaaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc	300
acaccttacc tggagacaaa cctcggacag ccaacaattc agagtttga acaggtggga	360
acaaaagtga atgtgaccgt agaagatgaa cggaacttag tcagaaggaa caacacttcc	420
ctaaggctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct	480
tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat	540
aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctccgaac agttaaccgg	600

aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt cagaggaaga	660
ggtgattctc ca	672

<210> 11  
<211> 675  
<212> DNA  
<213> Artificial

<220>  
<221> Nukleotidsequenz von tTF-GNGRAHA

<400> 11	
tcaggcacta caaatactgt ggcagcatat aatttaactt ggaaatcaac taatttcaag	60
acaattttgg agtgggaacc caaaccgc tc aatcaagtct acactgttca aataagcact	120
aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc	180
gacgagattt gtaaggatgt gaagcagacg tacttggcac gggcttctc ctacccggca	240
ggaaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc	300
acaccttacc tggagacaaa cctcggacag ccaacaattc agagtttga acaggtggga	360
acaaaagtga atgtgaccgt agaagatgaa cgacttttag tcagaaggaa caacactttc	420
ctaaggcctcc gggatgttt tggcaaggac ttaatttata cactttatta ttggaaatct	480
tcaagttcag gaaagaaaac agccaaaaca aacactaatg agttttttagt tgatgtggat	540
aaaggagaaa actactgttt cagtgttcaa gcagtgttcc cctccggac agttaaccgg	600
aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt cagaggtAAC	660
ggaagagcac atgca	675

<210> 12  
<211> 684  
<212> DNA  
<213> Artificial

<220>  
<221> Nukleotidsequenz von tTF-GALNGRSHAG

<400> 12	
tcaggcacta caaatactgt ggcagcatat aatttaactt ggaaatcaac taatttcaag	60
acaattttgg agtgggaacc caaaccgc tc aatcaagtct acactgttca aataagcact	120
aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc	180
gacgagattt gtaaggatgt gaagcagacg tacttggcac gggcttctc ctacccggca	240
ggaaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc	300
acaccttacc tggagacaaa cctcggacag ccaacaattc agagtttga acaggtggga	360

acaaaagtga atgtgaccgt agaagatgaa cggactttag tcagaaggaa caacacttcc	420
ctaaggcctcc gggatgttt tggcaaggac ttaatttata cactttatta ttggaaatct	480
tcaagttcag gaaagaaaaac agccaaaaca aacactaatg agttttgat tgatgtggat	540
aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgAAC agttaaccgg	600
aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt cagagggtgc	660
<b>ttaaatggaa gatctcacgc tggt</b>	<b>684</b>

<210> 13  
<211> 675  
<212> DNA  
<213> Artificial

<220>  
<221> Nukleotidsequenz von tTF-GCNGRCG

tcaggcacta caaatactgt ggcagcatat aatttaactt ggaaatcaac taatttcaag	60
acaattttgg agtgggaacc caaaccgc tc aatcaagtct acactgttca aataagcact	120
aagtcaaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc	180
gacgagattt tgaaggatgt gaagcagacg tacttggcac gggcttctc ctacccggca	240
ggaaatgtgg agagcaccgg ttctgctggg ggcctctgt atgagaactc cccagagttc	300
acacccttacc tggagacaaa cctcggacag ccaacaattc agagtttga acaggtggga	360
acaaaaagtga atgtgaccgt agaagatgaa cggactttag tcagaaggaa caacacttcc	420
ctaaggcctcc gggatgttt tggcaaggac ttaatttata cactttatta ttggaaatct	480
tcaagttcag gaaagaaaaac agccaaaaca aacactaatg agttttgat tgatgtggat	540
aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgAAC agttaaccgg	600
aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt cagaggctgc	660
<b>aacggtagat gtgggt</b>	<b>675</b>

<210> 14  
<211> 696  
<212> DNA  
<213> Artificial

<220>  
<221> Nukleotidsequenz von tTF-GCNGRCVSGCAGRC

tcaggcacta caaatactgt ggcagcatat aatttaactt ggaaatcaac taatttcaag	60
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acaatttgg agtggaaacc caaacccgtc aatcaagtct acactgttca aataagcact	120
aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc	180
gacgagattg tgaaggatgt gaagcagacg tacttggcac gggtcttctc ctacccggca	240
gggaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc	300
acaccttacc tggagacaaa cctcggacag ccaacaattc agagtttga acaggtggga	360
acaaaaagtga atgtgaccgt agaagatgaa cgacttttag tcagaaggaa caacacttcc	420
ctaaggcctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct	480
tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat	540
aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgAAC agttaaccgg	600
aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaaatt cagaggatgt	660
aatggaagat gtgttctgg atgtgcagga cgatgt	696

&lt;210&gt; 15

&lt;211&gt; 684

&lt;212&gt; DNA

&lt;213&gt; Artificial

&lt;220&gt;

&lt;221&gt; Nukleotidsequenz von tTF-GCVLNGRMECT

&lt;400&gt; 15

tcaggcacta caaataactgt ggcagcatat aatttaactt ggaaatcaac taatttcaag	60
acaatttgg agtggaaacc caaacccgtc aatcaagtct acactgttca aataagcact	120
aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc	180
gacgagattg tgaaggatgt gaagcagacg tacttggcac gggtcttctc ctacccggca	240
gggaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc	300
acaccttacc tggagacaaa cctcggacag ccaacaattc agagtttga acaggtggga	360
acaaaaagtga atgtgaccgt agaagatgaa cgacttttag tcagaaggaa caacacttcc	420
ctaaggcctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct	480
tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat	540
aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgAAC agttaaccgg	600
aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaaatt cagaggatgc	660
gtcttaaatg gtaggatgga atgc	684

<210> 16  
<211> 45  
<212> DNA  
<213> Artificial

&lt;220&gt;

<221> 5' Oligonukleotidprimer für die Herstellung von tTF<sub>1-218</sub>

&lt;400&gt; 16

catgccatgg gatcaggcac tacaaatact gtggcagcat ataat

45

<210> 17  
<211> 40  
<212> DNA  
<213> Artificial

&lt;220&gt;

<221> 3' Oligonukleotidprimer für die Herstellung von tTF<sub>1-218</sub>

&lt;400&gt; 17

cgggatccta ttatctgaat tcccctttct cctggcccat

40

<210> 18  
<211> 45  
<212> DNA  
<213> Artificial

&lt;220&gt;

&lt;221&gt; 5' Oligonukleotidprimer für die Herstellung von tTF-GRGDSP

&lt;400&gt; 18

catgccatgg gatcaggcac tacaaatact gtggcagcat ataat

45

<210> 19  
<211> 43  
<212> DNA  
<213> Artificial

&lt;220&gt;

&lt;221&gt; 3' Oligonukleotidprimer für die Herstellung von tTF-GRGDSP

&lt;400&gt; 19

cgggatccta ttatggagaa tcacaccttc ctctgaattc ccc

43

<210> 20  
<211> 45  
<212> DNA  
<213> Artificial

&lt;220&gt;

&lt;221&gt; 5' Oligonukleotidprimer für die Herstellung von tTF-GNGRAHA

&lt;400&gt; 20

catgccatgg gatcaggcac tacaaatact gtggcagcat ataat

45

<210> 21  
<211> 46  
<212> DNA  
<213> Artificial

<220>  
<221> 3' Oligonukleotidprimer für die Herstellung von tTF-GNGRAHA

<400> 21  
cgggatccta ttatgcgtt gctttccgt tacacctgaa ttcccc

46

<210> 22  
<211> 45  
<212> DNA  
<213> Artificial

<220>  
<221> 5' Oligonukleotidprimer für die Herstellung von tTF-GCNGRCG

<400> 22  
catgccatgg gatcaggcac tacaaataact gtggcagcat ataat

45

<210> 23  
<211> 46  
<212> DNA  
<213> Artificial

<220>  
<221> 3' Oligonukleotidprimer für die Herstellung von tTF-GCNGRCG

<400> 23  
cgggatccta ttaaccacat ctaccgttgc agcctctgaa ttcccc

46

<210> 24  
<211> 45  
<212> DNA  
<213> Artificial

<220>  
<221> 5' Oligonukleotidprimer für die Herstellung von tTF-GCNGRCVSGCAGRC

<400> 24  
catgccatgg gatcaggcac tacaaataact gtggcagcat ataat

45

<210> 25  
<211> 67  
<212> DNA  
<213> Artificial

<220>  
<221> 3' Oligonukleotidprimer für die Herstellung von tTF-GCNGRCVSGCAGRC

<400> 25  
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60

atcccc

67

<210> 26  
<211> 45  
<212> DNA  
<213> Artificial

<220>  
<221> 5' Oligonukleotidprimer für die Herstellung von tTF-GCVLN GRM EC

<400> 26  
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<210> 27  
<211> 55  
<212> DNA  
<213> Artificial

<220>  
<221> 3' Oligonukleotidprimer für die Herstellung von tTF-GCVLN GRM EC

<400> 27  
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<210> 28  
<211> 45  
<212> DNA  
<213> Artificial

<220>  
<221> 5' Oligonukleotidprimer für die Herstellung von tTF-GALN GR SHAG

<400> 28  
catgccatgg gatcaggcac tacaaatact gtggcagcat ataat 45

<210> 29  
<211> 55  
<212> DNA  
<213> Artificial

<220>  
<221> 3' Oligonukleotidprimer für die Herstellung von tTF-GALN GR SHAG

<400> 29  
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<210> 30  
<211> 45

<212> PRT

&lt;213&gt; Artificial

&lt;220&gt;

&lt;221&gt; Aminosäuresequenz des Affinitäts-tags

&lt;400&gt; 30

His His His His His Ser Ser Gly Leu Val Pro Arg Gly Ser Gly  
1 5 10 15Met Lys Glu Thr Ala Ala Ala Lys Phe Glu Arg Gln His Met Asp Ser  
20 25 30Pro Asp Leu Gly Thr Asp Asp Asp Lys Ala Met Gly  
35 40 45

&lt;210&gt; 31

&lt;211&gt; 269

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;220&gt;

&lt;221&gt; Aminosäuresequenz von tTF-GRGDSP mit N-terminalem Affinitäts-tag

&lt;400&gt; 31

His His His His His Ser Ser Gly Leu Val Pro Arg Gly Ser Gly  
1 5 10 15Met Lys Glu Thr Ala Ala Ala Lys Phe Glu Arg Gln His Met Asp Ser  
20 25 30Pro Asp Leu Gly Thr Asp Asp Asp Lys Ala Met Gly Ser Gly Thr  
35 40 45Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser Thr Asn Phe  
50 55 60Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln Val Tyr Thr  
65 70 75 80Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys Cys Phe Tyr  
85 90 95Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val Lys Asp Val  
100 105 110Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala Gly Asn Val  
115 120 125Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn Ser Pro Glu  
130 135 140Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr Ile Gln Ser  
145 150 155 160Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu Asp Glu Arg  
165 170 175Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg Asp Val Phe  
180 185 190

Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser Ser Ser Ser  
195 200 205

Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu Ile Asp Val  
210 215 220

Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val Ile Pro Ser  
225 230 235 240

Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu Cys Met Gly  
245 250 255

Gln Glu Lys Gly Glu Phe Arg Gly Arg Gly Asp Ser Asp  
260 265

<210> 32

<211> 270

<212> PRT

<213> Artificial

<220>

<221> Aminosäuresequenz von tTF-GNGRAHA mit N-terminalem Affinitäts-tag

<400> 32

His His His His His Ser Ser Gly Leu Val Pro Arg Gly Ser Gly  
1 5 10 15

Met Lys Glu Thr Ala Ala Ala Lys Phe Glu Arg Gln His Met Asp Ser  
20 25 30

Pro Asp Leu Gly Thr Asp Asp Asp Asp Lys Ala Met Gly Ser Gly Thr  
35 40 45

Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser Thr Asn Phe  
50 55 60

Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln Val Tyr Thr  
65 70 75 80

Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys Cys Phe Tyr  
85 90 95

Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val Lys Asp Val  
100 105 110

Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala Gly Asn Val  
115 120 125

Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn Ser Pro Glu  
130 135 140

Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr Ile Gln Ser  
145 150 155 160

Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu Asp Glu Arg  
165 170 175

Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg Asp Val Phe  
180 185 190

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Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser Ser Ser Ser  
195 200 205

Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu Ile Asp Val  
210 215 220

Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val Ile Pro Ser  
225 230 235 240

Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu Cys Met Gly  
245 250 255

Gln Glu Lys Gly Glu Phe Arg Gly Asn Gly Arg Ala His Ala  
260 265 270